DOCUMENT RESUME

ED 127 365 95 TM 005 525

AUTHOR Wheeler, Patricia
TITLE Beginning Teacher Evaluation Study: Phase II, 1973-74, Final Report: Volume II. Description of the Field Study and Sample.
INSTITUTION California State Commission for Teacher Preparation and Licensing, Sacramento.; Educational Testing Service, Princeton, N.J.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
REPORT NO ETS-PR-76-7
PUB DATE Jul 76
NOTE 71p.; For related documents, see TM 005 524-535

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS *Academic Achievement; *Effective Teaching; Elementary Education; Elementary School Teachers; *Field Studies; Grade 2; Grade 5; Mathematics; Reading; *Research Methodology; Student Behavior; Student Testing; *Teacher Behavior

ABSTRACT

The Beginning Teacher Evaluation Study (BTES), Phase II, was a research project on effective teaching behavior--what teachers do that significantly affects what and how pupils learn. The purposes of Phase II were to (1) develop an assessment system for measuring teacher and pupil behaviors and other factors which could influence each of them and their interrelationships and (2) generate hypotheses about the interrelationships among teacher and pupil behaviors and related factors. Forty-one second grade and 54 fifth grade experienced teachers participated in the study. This volume of the final report describes the activities of the field study and the sample of districts, teachers, and students included in this study conducted in 43 schools in eight districts throughout the state of California. (RC)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED127365

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY
DOROTHY URBAN
ETS
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER.

TM005 525

PR-76-7

BEGINNING TEACHER EVALUATION STUDY
PHASE II 1973-74

FINAL REPORT

VOLUME II

DESCRIPTION OF THE FIELD STUDY AND SAMPLE

BY

PATRICIA WHEELER

2

EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY

BEGINNING TEACHER EVALUATION STUDY: PHASE II

FINAL REPORT: VOLUME II.

DESCRIPTION OF THE FIELD STUDY AND SAMPLE

by

Patricia Wheeler

Educational Testing Service
Berkeley, California

A project conducted by Educational Testing Service for the California Commission for Teacher Preparation and Licensing and funded by the National Institute of Education.

Copyright by © 1975, 1976 by Educational Testing Service. All rights reserved.

PREFACE

The Beginning Teacher Evaluation Study (BTES) is a long-term project of the California Commission for Teacher Preparation and Licensing. The Commission is responsible for licensing teachers in California and is trying to determine what factors should be considered in this process.

The second phase of the study was conducted by Educational Testing Service for the Commission. Phase II was the hypotheses-generating and instrument-development phase of BTES. ETS had two tasks: (1) to develop an assessment system to measure both teacher and pupil behaviors as well as other factors which might be related to these behaviors; and (2) to generate hypotheses about the interrelationships between teacher and pupil behaviors and related factors.

The study was conducted in 43 schools in eight districts throughout the state of California. A total of 41 second grade teachers and 54 fifth grade teachers participated in the project during Phase II.

The final report for Phase II consists of several volumes. Volume I describes the design and rationale for the experimental design and data analysis procedures and includes the major findings of Phase II. Volume II describes the conduct of the field study and the sample of participants.

Because of the complex nature of Phase II, a variety of techniques was used to measure teacher and pupil behaviors. They are described in Volumes III, IV, and V. Results are also included in these volumes.

Volume III describes the observation systems in detail and is available in three separately bound sections. The first section, Volume III.1., describes the behavior recording observation system used in the project--APPLE (Anectdotal Process for Promoting the Learning Experience). Volume III.2. describes the category system used to observe classroom activities--

RAMOS (Reading and Mathematics Observation System). The third section of this volume, III.3., covers the videotaping of instructional activities during reading and mathematics.

Volume IV concerns other aspects of the measurement system and covers both the pupil and teacher test batteries.

The fifth volume covers a series of small studies done as part of Phase II. Volume V.1. looks at teacher aptitudes as related to teacher behaviors. Volume V.2. is concerned with the relationship between teacher expectations and pupil performance. Volume V.3. reviews performance of pupils in the BTES teachers' classrooms for two years prior to Phase II, the historical test data. Volume V.4. discusses the Diagnostic Film Test, a device designed to assess teachers' skills in diagnosing reading problems and prescribing corrective action. Volume V.5. summarizes the results of work diaries completed by the teachers on their reading and mathematics instructional program.

Information on the availability of these volumes can be obtained from:

Dr. Frederick J. McDonald
Educational Studies
Educational Testing Service
Princeton, NJ 08540

Information on other phases of BTES can be obtained from:

California Commission for Teacher
Preparation and Licensing
1020 O Street
Sacramento, CA 95814

ACKNOWLEDGEMENTS

The author would like to acknowledge the contributions of the project staff and consultants in the smooth running of the field study. A special word is due to the research assistants in the Berkeley Office--Mary Corder, Gerry Curtis, Helga Grabske, Gail Hare, Pamela Roelfs; to the Los Angeles Office staff--Elaine Clinton, Celia DeLavallade, J. Richard Harsh, and Virginia VandaGriff, who coordinated the activities in Southern California; to Fred McDonald, the Project Director; and to Patricia Elias and Robert E. Lambert, the other Associate Project Directors. The cooperation of the clerical and support staffs in the Berkeley Office and the field staff (test monitors, observers, and video tapers) was critical to the success of the field study. Without their hard work and endurance, we would have been unable to complete the field activities on schedule.

The project consultants worked closely with the field staff to ensure that the observations and videotaping of classrooms ran well. They included Nadine Lambert and Carolyn Hartsough of the University of California at Berkeley, Jonathan Sandoval of the University of California at Davis, and Robert Calfee and Katherine Hoover of Stanford University.

The assistance of J. Alden Vanderpool of the California Teachers' Association in the recruitment of teachers and his support of the project staff is appreciated also.

A field study of this size and complexity requires the cooperation and hard work of many individuals. I am grateful to all of them for their assistance.

A special word of appreciation is due to the teachers, aides, principals, district staff and substitute teachers who participated in this study. Without their efforts there would be no study and without their cooperation and support the value of the study would be minimal. We are grateful to them and hope they feel they gained something of value from participating in Phase II of the Beginning Teacher Evaluation Study.

Patricia Wheeler
Associate Project Director

TABLE OF CONTENTS

	Page
Preface	i
Acknowledgements	iii
Overview of the Field Study	1
Description of Phase II of BTES	1
Description of the Field Activities	3
Stage One	3
Stage Two	5
Stage Three	7
Recruiting Participants	8
Presentations to Districts and Teachers	9
Recruitment of Teachers	11
Final Selection of Teachers	11
Description of the Sample	11
Characteristics of the Districts	12
Characteristics of the Teacher Sample	18
Description of the Pupil Sample	19
Pupil Measures	23
Development of Tests	23
Scheduling and Hiring Substitute Teachers	29
Monitors	30
Printing and Distribution of Test Materials	31
Administration of Tests	32

Page

Parent Questionnaire 33

Historical Data 34

Collection Procedures 34

Teacher Instruments 34

Development of Tests 35

Scheduling 38

Administration of Tests 39

Pupil Surveys 39

Teacher Interviews 40

Environments of Teaching Study: Teachers 42

Videotaping 43

Sub-Sample for Analysis of Consistency of Teaching Behavior . . . 43

Remainder of the Teachers 44

Selection and Training of Videotapers 44

Equipment 44

Coding Procedures and Analysis of Data 45

Work Diaries and Program Overviews 45

Developmental Phases 46

Distribution and Collection 48

Observations 49

Selection of Observation Systems 50

Training Observers 51

Scheduling and Observing 51

Selection of Target Pupils 53

Page

Environments of Teaching Study: Principals 54

Development of Instruments 54

Scheduling Interviews 55

Collection of Data 55

Communications 55

BTES Newsletter 56

Personalized Binders 57

Pupil File Pockets 57

Reports to Teachers 57

Teacher Honoraria 58

References 59

LIST OF TABLES

Table		Page
1	Stage One Field Activities, July 1, 1973 - January 1, 1974 . .	4
2	Stage Two Field Activities, January 2, 1974 - May 31, 1974 . .	6
3	Stage Three Field Activities, June 1, 1974 - November 30, 1974	8
4	Information on Enrollment, Class Size, and Number of Schools in Participating Districts	13
5	1972-1973 State Percentile Ranks of District Median Test Scores in Reading and Average Scholastic Ability	14
6	Minority Enrollment in Participating Districts Based on 1970 U.S. Census	16
7	Data from 1970 U.S. Census Related to Socioeconomic Profiles of Participating Districts	17
8	Number of BTES Teachers by Type of District and Grade Level	18
9	Educational Level Attained by BTES Teachers	19
10	Number and Percent of BTES Pupils at Each Grade Level	20
11	Percentage of Minority Pupils in BTES Classrooms and Districts and the State of California	21
12	Socioeconomic Status as Judged by Teachers of 2596 BTES Pupils	22
13	Socioeconomic Status Level as Judged by Principals of 43 BTES Participating Schools	22
14	Number of Teachers in Observation Sub-Sample	52

LIST OF FIGURES

Figure		Page
1	Proposed distribution of districts	9
2	Distribution of recruited districts	10
3	Test design matrix for Reading Achievement and Reading Application Tests	25

Overview of the Field Study

The first volume of this report has provided the rationale for the experimental design and analysis procedures used in Phase II of the Beginning Teacher Evaluation Study (BTES) and gives the major findings. This volume will describe the activities of the field study and the sample of districts, teachers, and pupils included in the study. The instrumentation, data analysis procedures and results of BTES are given in the other volumes.

Description of Phase II of BTES

The Beginning Teacher Evaluation Study (BTES), Phase II, was a research project on effective teaching behavior - what teachers do that significantly affects what and how pupils learn. The two purposes of Phase II of BTES were (1) to develop an assessment system for measuring teacher and pupil behaviors and other factors which could influence each of them and their interrelationships and (2) to generate hypotheses about the interrelationships among teacher and pupil behaviors and related factors.

Phase II was primarily concerned with student achievement in reading and mathematics at the second and fifth grade levels. During 1973-74, 95 teachers from 43 schools in eight districts in Northern and Southern California participated in the study on a voluntary basis. They included 41 second grade teachers and 54 fifth grade teachers in Barstow, Elk Grove, Los Angeles, Orinda, Riverside, San Jose, San Marino, and Vacaville. All of them had at least three years of teaching experience.

To measure student learning in these 95 classrooms, the pupils took a series of tests in November and May covering achievement, aptitude and

attitude in reading and mathematics. The teachers also took a series of tests in knowledge of teaching reading and mathematics, attitude toward teaching reading and mathematics, verbal and quantitative abilities, and reasoning skills.

During the second half of the school year the teachers were observed from three to eight times. Three types of observation systems were used: an anecdotal system, a category system and a rating scale. APPLE (Anecdotal Process for Promoting the Learning Experience) focused on student-teacher interactions. The category system, RAMOS (Reading and Mathematics Observation System), looked at the instructional process in reading and mathematics. A rating scale was developed for the study and used at the end of the observations.

The observations were one means of collecting information on teaching performances. ETS also videotaped reading and mathematics instruction in each classroom. In addition, the teachers and their aides completed work diaries in reading and mathematics for two weekly periods during the year.

Since the school environment outside of the immediate classroom could affect performance, ETS conducted an extensive interview with each principal in the project and had the principals and teachers complete questionnaires about the school, its staffing, facilities, and reading and mathematics programs.

Because Phase II of BTES was a hypotheses-generating and instrument-development year, a large number of techniques for gathering information were used. As a consequence, great demands were placed on the time of the 95 teachers and their principals. However, they contributed valuable ideas on teacher effectiveness and teacher training and provided a

source of a large variety of data on factors that might be related to teaching effectiveness.

Description of the Field Activities

Phase II of the Beginning Teacher Evaluation Study consisted of three stages. The major activities for each stage are listed below. Each activity is discussed in more detail later in this volume. The overview for each stage is followed by a chart listing the major field activities and the months in which they occurred.

Stage One

The first stage (July 1, 1973 to January 1, 1974) of Phase II of the Beginning Teacher Evaluation Study was comprised of three major activities: (1) recruiting of teachers to participate in the study; (2) developing the test batteries and administering them to the teachers and their pupils; (3) planning the work for the next stage and developing the procedures and instruments to be used. The field activities for Stage One are shown in Table 1.

The process of recruiting the teachers was the responsibility of the California Commission on Teacher Preparation and Licensing (CCTPL). ETS assisted the Commission in recruiting. This activity was conducted by CCTPL, aided by ETS, from July through October of 1973.

The instruments and procedures used in this project were developed in a series of steps. The first step was a discussion of the proposed instrument (or procedure) with the Evaluation Committee of the Commission. At this step ETS presented several instruments and described the reasons for using them and their comparative advantages. At the second step ETS presented a revised version of these instruments to the Committee for

further analysis. At the third step a final version was presented to the Committee.

In the early months of the study ETS met with the Evaluation Committee during a part of their regular monthly meeting. The amount of work to be discussed, however, became so great that the Committee adopted the practice of a work session with ETS staff for a day before their regularly scheduled meeting. This arrangement provided more time for a thorough discussion of problems, procedures, and instruments.

The fall testing of pupils and teachers was done during November. Pupil information was collected from teachers and a Parent Questionnaire distributed. In November, all teachers had a group debriefing session on the study and some were interviewed on the development of a work diary in reading. A sample of 12 teachers in Northern California was videotaped in December as part of the Consistency Substudy of BTES.

Table 1

Stage One Field Activities,
July 1, 1973 - January 1, 1974

Field Activity	July	August	Sept.	Oct.	Nov.	Dec.
Recruiting	X	X	X	X		
Pupil Fall Testing					X	
Parent Questionnaire					X	
Teacher Fall Instruments and Group Debriefings					X	
Interviews on Work Diaries					X	
Videotaping of Subsample						X

Stage Two

During the second stage of Phase II of the Beginning Teacher Evaluation Study (January 2, 1974 to May 31, 1974) three large areas of activities were undertaken: (1) field activities and data collection; (2) development of new instruments for spring and revision of fall instruments; (3) scoring and analysis of fall tests and questionnaires. The field activities for each of these three areas are listed in Table 2.

During January and February, a BTES Associate Project Director from the Berkeley Office of ETS met with each principal to discuss the progress of the study to date and to inform them about planned spring activities. The principals were also given an opportunity to discuss any problems or concerns they had about the study (personnel, schedules, etc.). A Commission staff member accompanied the ETS staff member on several of these visits.

The pupil test battery which was administered in the fall underwent minor revisions. A teacher test battery to measure cognitive factors was proposed, reviewed, selected and revised. The Reading Work Diary was revised and expanded. A Mathematics Work Diary, Program Overviews and a Diary for Paraprofessionals were designed. A Diagnostic Film Test was developed. School Climate Study instruments were reviewed, selected and adapted.

From February through May, each BTES teacher was observed on two or more days. Sometimes there was one observer present while at other times two were present. Each teacher was videotaped one or more times. Work Diaries were completed by the teachers in March and April, and Program Overviews were filled out in March. The teacher aides also completed Diaries in March and April.

Table 2

Stage Two Field Activities,
January 2, 1974 - May 31, 1974

Field Activity	Jan.	Feb.	March	April	May
Principal Progress Meetings	X	X			
Videotaping of Subsample	X	X	X		X
Videotaping of Rest of Sample		X	X	X	X
Observations		X	X	X	X
Program Overviews			X		
Work Diaries			X	X	
Aide Diaries			X	X	
Principal Data for School Climate Study Collected			X	X	X
Historical Data Collected				X	X
Pupil Spring Testing					X
Follow-up of Parent Questionnaire					X
Teacher Spring Testing					X
Diagnostic Film Test					X
Teacher Data for School Climate Study Collected					X

During March, April, and May, ETS staff conducted an extensive interview with each principal in the project as part of the School Climate Study. BTES principals also completed two questionnaires.

All pupils and teachers were tested in May. A follow-up was done on the Parent Questionnaire at those schools with low return rates in the fall. Teachers completed two questionnaires for the School Climate Study and provided more data on their pupils: rankings in reading and mathematics, information on ESL pupils, and information on attendance. A sample of BTES teachers took the Diagnostic Film Test during the May testing. Teachers participated in small group interview sessions in May with an ETS staff member. As in the fall group debriefings, teachers were encouraged to discuss the tests they had completed, their ideas for teacher training, the BTES research activities during Phase II, and any other concerns they had related to Phase II. A start was made on the collection of historical data during April and May.

Stage Three

Field activities during stage three (June 1, 1974 to November 30, 1974) were rather limited, as shown in Table 3. Most staff effort was devoted to data analysis and report preparation during this period. The collection of historical data was completed by mid-October. Videotapes were sent on a loan basis to those participating teachers who had requested them.

Table 3

Stage Three Field Activities,
June 1, 1974 - November 30, 1974

Field Activity	June	July	Aug.	Sept.	Oct.	Nov.
Historical Data Collected	X	X	X	X	X	X
Videotapes Sent to Teachers on Loan Basis					X	X

In all cases confidentiality of information for individual principals and teachers was maintained. Aside from project staff and consultants, only the teacher had access to data on and videotapes of his or her pupils and his or her own tests and questionnaires. The principal was provided access to group data for his or her school if enough teachers were participating to protect confidentiality of teacher and pupil data.

Recruiting Participants

The first major field activity was the recruitment of volunteer teachers for Phase II of BTES. At the July 1973 meeting, a list of thirty prospective districts was prepared by the Evaluation of Teaching Committee of the Commission with a view to securing the cooperation of eight. These districts were ordered by the Committee in terms of their desirability as participants where the criterion of desirability was that the district had characteristics needed to make a reasonably representative sample of California districts.

After the initial nomination of school districts by the members of the Evaluation Committee, the Executive Secretary of the Commission contacted each of the thirty selected superintendents to invite their

participation. With the exception of two, all superintendents committed themselves at that time to having a presentation describing the study made in their districts. The Committee then selected eight of the districts which fit their matrix, as shown in Figure 1, of large, medium and small sized communities in urban, suburban and rural locations. The districts were divided according to Northern and Southern California locations as well.

	SOUTH			NORTH		
	LARGE	MEDIUM	SMALL	LARGE	MEDIUM	SMALL
URBAN	X			X		
SUBURBAN	X		X		X	X
RURAL		X			X	

Figure 1. Proposed distribution of districts.

Dates for the introductory meetings were set with each superintendent. The strategy was identical for all presentations. Each superintendent was invited to chair the meeting and to have representatives from administrators' associations and major teachers' associations present for the presentation of an overview of the study. This involved a single presentation in each district.

Presentations to Districts and Teachers

The Commission's BTES Project Supervisor made each presentation. She was accompanied by an Associate Project Director from ETS whose function was to describe the schedule of activities and to respond to any technical questions about instrumentation, analysis, or the research

design. A state level officer of the California Teachers' Association, or his staff assistant, was present at many of the presentations. District principals frequently attended the meetings.

At the conclusion of each presentation the superintendent was asked to provide the Commission with a letter indicating his willingness to participate and support by the local school board and the teachers' associations. Of the eight districts selected by the Committee, two elected not to participate after the initial presentations. Three alternate districts were then scheduled for meetings. One declined to participate after the presentation. The final distribution of recruited districts is represented in Figure 2.

	SOUTH			NORTH		
	LARGE	MEDIUM	SMALL	LARGE	MEDIUM	SMALL
URBAN	Los Angeles			San Jose		
SUBURBAN	Riverside		San Marino			Orinda
RURAL			Barstow		Vacaville Elk Grove	

Figure 2. Distribution of recruited districts.

Though the final matrix differs somewhat from the original one, shown in Figure 1, the Evaluation Committee members felt it was close enough to provide a variety of type of schools and districts. In addition, the purposes of Phase II of BTES, instrument-development and hypotheses-generation, did not require a sample representative of the state of California.

Recruitment of Teachers

The second series of meetings involved single presentations in some districts (Barstow, Orinda, Riverside, San Marino, and Vacaville), one meeting in each of three Areas of Los Angeles, two meetings in the fourth Los Angeles Area, and a series of meetings in San Jose. The content of the meetings was essentially the same type of overview of the study as was given to the administrative staff. Participants were provided with a written overview, a schedule of project activities, and an outline of tests included in the pupil battery. At the end of each meeting teachers were asked to sign a roster and to indicate whether or not they wished to participate. Participation in this study was on a voluntary basis. The only reward to teachers was a token honorarium.

Final Selection of Teachers

A few teachers who volunteered were dropped from the study because of insufficient experience, or because of too few pupils at appropriate grade levels. Participating teachers were contacted and advised of their inclusion in the sample immediately prior to fall testing. Locations for teacher testing and interviewing and arrangements for the selection and hiring of substitute teachers were handled with the district administrative staff. Although not all principals had attended presentations of the study, all were contacted by phone prior to fall pupil and teacher testing to arrange convenient dates for fall testing.

Description of the Sample

The following section describes the eight participating districts in more detail. It contains a description of the teachers, based on information in the Teacher Questionnaire completed by 97 BTES teachers

in November 1973. Information on pupils from several sources is also included. Other volumes of this report provide additional information on project participants.

Characteristics of the Districts

To determine if the eight participating districts represented a variety of characteristics in relation to total enrollment, average class size, past academic performance, minority enrollment, and socio-economic status, descriptive information on the districts was obtained from the California State Testing Program, 1971-72 and 1972-73, Profiles of School District Performance and the 1974 California Public School Directory. The data are presented in Tables 4 through 7.

There are a total of almost 1100 elementary, high school and unified (K-12) districts in California. Many of these are small districts in remote areas. This fact must be kept in mind in reviewing Tables 4-7. The state percentile ranks are based on the number of districts and are not weighted to account for district size.

Table 4 indicates that the eight participating districts varied in total enrollment size from 2,750 to 719,039, the second largest district in the United States. All but one are unified school districts, covering grades K through 12. Of a total of 537 schools in these eight districts which have a second and/or fifth grade classroom, 43, or 8 percent, participated in this study. Average class size for grades K-8 in these districts ranges from 25.1 to 32.1. They tend to have larger classes at the elementary level than other districts in the state. The mean class size for grades K-8 in the state in 1972-73 was 24.71.

Table 5 is based on the 1972-73 State Testing Program which used the Cooperative Primary Reading Test (Educational Testing Service) in

Table 4

Information on Enrollment, Class Size, and Number of Schools in Participating Districts

District	Total Enrollment*	Grades	Number of Schools w/ Grades 2 and/or 5	Number of Schools in BTES	Average K-8 Class Size in 1972-73	State Percentile Rank of District's Average K-8 Class Size in 1972-73
Barstow	9,248	K-12	16	4	30.9	98
Elk Grove	10,336	K-12	14	1	30.5	96
Los Angeles**	719,039	K-12	435	17	29.8	89
Orinda	2,750	K-8	5	3	25.1	39
Riverside	26,960	K-12	25	5	29.9	91
San Jose	38,099	K-12	31	4	29.0	81
San Marino	3,462	K-12	3	3	26.4	50
Vacaville	7,032	K-12	8	6	32.1	99

*1974 California Public School Directory

**Four administrative areas within Los Angeles participated. The number of schools in each of these areas is as follows: Area A - 5, Area D - 3, Area E - 3, Area H - 6.

Table 5

1972-73 State Percentile Ranks of District Median Test Scores in Reading and Average Scholastic Ability

District	Grade 1 Reading	Grade 2 Reading	Grade 6 Reading	Grade 6 Scholastic Ability
Barstow	41	40	30*	27*
Elk Grove	53	58	35	40
Los Angeles	37	29	22	30
Orinda	95	95	97	97
Riverside	52	53	59	64
San Jose	70	70	62	68
San Marino	96	97	97	95
Vacaville	47	43	57	54

*Represent 1971-72 figures; 1972-73 figures not reported.

grades 1 and 2, the Reading Vocabulary and Reading Comprehension sections of the Comprehensive Tests of Basic Skills (CTB/McGraw-Hill) in grade 6, and median IQ scores from the Lorge-Thorndike Intelligence Tests - Verbal Battery (Houghton Mifflin) in grade 6. The state percentile ranks, based on district median test scores, are given in Table 5. Overall this group of districts appears to be doing better in reading achievement than the total group of districts in the state of California. The same holds true for scholastic aptitude based on grade 6 scores.

The information in Table 6 indicates that six of the participating districts have a higher proportion of minority pupils than other districts in the state. Based on 1970 U.S. Census figures the mean percent minority enrollment of all California school districts was as follows: total minority pupils 22.93%, American Indian 1.53%, Negro 4.04%, Oriental 1.29%, and Spanish-surnamed 15.21%.

The minority percentages for the participating districts are given in Table 6. These eight districts appear to have about the same total percent minority enrollment as the total sample of California pupils. They tend to have a slightly higher proportion of Blacks and Orientals and a slightly lower proportion of American Indians and Spanish-surnamed.

It appears from the data in Table 7 that the average SES level of the participating districts is somewhat higher than the state average. College-educated is defined in this table as age twenty-five or over with five or more years of college. According to the 1970 U.S. Census, 5.66 percent of the males and 4.87 percent of the females in California are college-educated. Two of the eight districts have very high SES levels compared to the other districts in the state. No district is at a very low level relative to other districts in the state, though there is certainly variation among the eight participating districts.

Table 6

Minority Enrollment in Participating Districts
Based on 1970 U.S. Census

District	Total		American Indian		Negro		Oriental		Spanish-surnamed	
	%	SP*	%	SP*	%	SP*	%	SP*	%	SP*
Barstow	33.5	77	2.6	86	6.3	90	1.2	74	23.2	76
Elk Grove	15.5	54	0.6	69	1.9	78	2.3	90	8.7	52
Los Angeles	52.5	90	0.2	46	24.8	98	3.5	95	22.7	75
Orinda	2.7	10	0.0	16	0.4	56	1.3	76	0.8	13
Riverside	23.5	65	0.2	46	8.8	93	0.7	61	13.3	63
San Jose	29.9	74	0.2	46	1.5	74	2.2	89	25.3	79
San Marino	3.0	11	0.0	16	0.0	20	0.5	54	2.1	22
Vacaville	15.3	54	0.3	55	2.3	80	1.7	84	10.7	57
Mean Percentage for BTES Districts	21.96		0.51		5.75		1.68		13.35	

*1971-72 State Percentile Rank of Districts

Table 7

Data from 1970 U.S. Census Related to
Socioeconomic Profiles of Participating Districts

District	State Percentile Rank of District Median Male Income	College-Educated Males		College-Educated Females	
		% of District	State Percentile Rank of District	% of District	State Percentile Rank of District
Barstow	72	3.89	44	3.71	43
Elk Grove	75	5.98	68	4.49	56
Los Angeles	59	7.91	80	5.36	71
Orinda	99	26.30	99	23.71	99
Riverside	68	8.53	83	7.19	84
San Jose	70	8.66	83	6.56	80
San Marino	99	27.77	99	24.79	99
Vacaville	72	5.26	60	5.00	65

Characteristics of the Teacher Sample

A total of 95 teachers from eight districts in Northern and Southern California participated in the study on a voluntary basis. This included 41 second grade teachers and 54 fifth grade teachers in Barstow, Elk Grove, four administrative areas of Los Angeles, Orinda, Riverside, San Jose, San Marino, and Vacaville. There were 97 teachers participating in the study in the fall. However, one resigned from the teaching position; the other was promoted to a new position in the school and thus could not continue in the study. The figures below include these two teachers and are based on information collected in the fall teacher questionnaire.

Including 1973-74, the teachers in the project had from 3 to 31 years of full-time teaching experience, with an average of 13.4 years. They had spent from one to 18 of these years at their present school.

The table below indicates the number of teachers by type of district for Northern and Southern California.

Table 8

Number of BTES Teachers by Type of District and Grade Level

	URBAN		SUBURBAN		RURAL	
	No. Calif.	So. Calif.	No. Calif.	So. Calif.	No. Calif.	So. Calif.
Grade 2	1	22	2	11	6	0
Grade 5	6	20	4	10	11	4

Forty of the grade 2 teachers were female and two were male. There were 38 female teachers and 17 male teachers at the grade 5 level. The teachers ranged in age from 24 to 60 years with the average age of the

female teachers being 40.2 years and for the male teachers 41.3 years. Four female teachers did not give their ages.

The group of 97 teachers had nine Blacks, one Chinese-American, four Japanese-Americans, and 83 Whites.

The highest educational level attained by the teachers are indicated in Table 9.

Table 9

Educational Level Attained by BTES Teachers

Educational Level	Grade 2	Grade 5
Bachelor	26 62%	41 76%
Master	14 33%	11 20%
Prof. or Specialist	2 5%	2 4%

The teachers gave a variety of reasons for participating in the project:

> Fifty-three teachers indicated their desire and willingness to help reevaluate and improve teacher training. They felt a professional responsibility to participate.
>
> Fifteen teachers participated because the study seemed interesting.
>
> Twelve teachers saw a chance for self-evaluation and improvement.
>
> Eight teachers participated because they were "volunteered."
>
> The rest did it for "fun or money".

Description of the Pupil Sample

There were about 2700 pupils in the 95 participating BTES classrooms. Almost 1100 of these were in grades 1 through 3 and about 1600 in grades 4 through 6. The original intent of the study was to have self-contained,

single grade level classrooms. However, in order to have a sufficient number of classrooms, it was necessary to include pupils at adjacent grade levels. The approximate percent of pupils in each grade is given in Table 10.

Table 10

Number and Percent of BTES Pupils at Each Grade Level

Grade	Number	Percent
1	75	3
2	864	33
3	117	4
4	70	3
5	1394	52
6	138	5

The BTES teachers were asked in the fall to indicate the racial or ethnic group for each pupil in their classroom. The results are given in Table 11 on the left side. The figures on the right are based on the 1970 U.S. Census data reported in the California State Testing Program, 1971-72 and 1972-73, Profiles of School Districts. These two sets of figures have been presented earlier in this section are given here for comparison purposes. It should be noted that more current classifications were used in collecting data from BTES teachers than were used in the 1970 U.S. Census; direct comparisons should be made with caution.

Table 11

Percentage of Minority Pupils in BTES Classrooms and Districts and the State of California

Percentage for all BTES Classrooms		Mean Percentage for BTES Districts		Mean District Percentage for the State of California	
Total Minority	45.20	Total Minority	21.96	Total Minority	22.93
Native American	0.00	American Indian	0.51	American Indian	1.53
Black	12.28	Negro	5.75	Negro	4.04
Chinese, Filipino, Japanese	9.34	Oriental	1.68	Oriental	1.29
Mexican	17.66	Spanish-surnamed	13.35	Spanish-surnamed	15.21
Other	5.69	Other	0.67	Other	0.86

The BTES classrooms appear to have a higher proportion of minority pupils than the districts or the state as a whole. The two right columns are means for groups of districts aggregated without taking the size of the districts into account. They are not directly comparable to the first column which is based on individual pupil data.

The teachers were also asked to indicate the SES level for each pupil on a five-point scale. Each teacher might have had different definitions of what constituted a certain SES level. However, based on their judgment, pupil SES level is given in Table 12.

Table 12

Socioeconomic Status as Judged by
Teachers of 2596 BTES Pupils

Level	Number of Pupils	Percent
Upper	50	1.93
Upper-Middle	488	18.80
Middle	981	37.79
Lower-Middle	770	29.66
Lower	307	11.83

During the spring the principals were asked to indicate the overall SES level for pupils in their schools. The results are given in Table 13.

Table 13

Socioeconomic Status Level as Judged by
Principals of 43 BTES Participating Schools

Level	Number of Schools	Percent
High	1	2.33
High-Middle	9	20.93
Middle	12	27.91
Low-Middle	16	37.21
Low	5	11.63

About 70 percent of the parents completed a Parent Questionnaire. Both Spanish and English versions were distributed to all parents. Data from the Parent Questionnaire indicated that English was a second

language for about 12 percent of the BTES pupils. Two-thirds of these spoke Spanish and the remainder another language.

Pupil Measures

The RFP called for a battery of reading and mathematics measures which would assess: (1) pupil cognitive achievements, (2) pupil applications, and (3) pupil attitudes. The preparation and field testing of this battery was one of the major activities of Phase II of the Beginning Teacher Evaluation Study. Volume IV contains a more extensive discussion of the tests and presents some results.

Development of Tests

The Research Design Report prepared by National Education Program Associates for the Commission prior to Phase II of BTES suggested that the pupil achievement test battery include measures in the following categories:

I. Reading
   - A. Cognitive Skills
     1. Decoding
     2. Comprehension
   - B. Application
   - C. Attitude

II. Mathematics
   - A. Concepts
   - B. Application
   - C. Attitude

This report also suggested that pupil background measures be obtained. These measures were to include: (1) demographic data, (2) academic ability, and (3) learning style. Suggested existing measures and sources to aid in instrument development were described in the Research Design Report.

As was specified in the ETS proposal, the first step in developing the pupil battery was to analyze existing instruments. Meetings were held with consultants in late June and early July of 1973. The goals for teaching reading and mathematics were studied and the strengths and weaknesses mentioned in various test reviews were related to these goals. It became apparent that no single achievement test battery was sufficiently strong in all areas under consideration to be the only pupil achievement measure in this study. It also became apparent that the selection of either a norm-based test or a criterion-referenced test alone would likely meet criticisms from supporters of one approach or the other. Consequently, the decision was made to include both a norm-based achievement test battery and also some criterion-referenced tests developed specifically for this project.

The plan for reading tests involved use of the Stanford Achievement Test-Word Skills (Harcourt Brace Javonovich, Inc.) as a norm-referenced measure of decoding ability and the California Achievement Test (CAT)-Reading Comprehension subtest (CTB/McGraw-Hill) as a norm-referenced measure of comprehension. A criterion-referenced decoding test was developed for the study. Criterion-referenced tests of reading comprehension and reading application were developed by ETS from its item pools and other sources. The test design matrix shown in Figure 3 was used for the reading achievement (comprehension) and application tests.

	Literal Comprehension	Interpretation
Main Idea	Easy Medium Hard	Easy Medium Hard
Relations and Sequence	Easy Medium Hard	Easy Medium Hard
Details	Easy Medium Hard	Easy Medium Hard

Figure 3. Test design matrix for Reading Achievement and Reading Application Tests.

Items of three difficulty levels (easy, medium, hard) were included in each cell for these reading instruments, resulting in 18-item tests. The reading attitude test was adapted from one used in a national study of compensatory reading programs.

The California Achievement Tests subtests in Mathematics Concepts and Computation were selected for use. A mathematics application test was developed by ETS with three main segments: (1) concepts, (2) computation, and (3) utilization. Mathematics attitude items paralleling the reading attitude items were written.

The Short Form Test of Academic Aptitude (CTB/McGraw-Hill) was selected to measure student aptitude because it provides scores of vocabulary, memory, and two reasoning abilities instead of treating aptitude as a unitary trait. It was decided to use tests of cognitive styles as measures of learning style. This decision was made because most work on learning styles has been inconclusive while there is a considerably better defined body of data on cognitive styles and their

relationship to many aspects of learning. The Group Embedded Figures Test (Consulting Psychologists Press) was selected to measure cognitive style for grade 5 and modified appropriately. The Elementary Group Embedded Figures Test was adapted for group testing from an individually administered test (Consulting Psychologists Press) for use in grade 2.

An instrument designed to measure pupil expectancy of success in reading and mathematics was also developed and administered to the teachers in the fall and spring. Parent questionnaires were designed to collect pupil demographic data.

Pilots of all tests were constructed and tried out on a small sample of children in the Princeton, New Jersey area in August 1973. Modifications of items and directions were made. Copies of each test were sent to members of the Evaluation Committee of the Commission and, by the Commission staff, to a number of outside reviewers. Upon completion of these reviews, additional changes were made in the tests in response to the criticisms and suggestions received. Detailed administrative manuals were prepared for the tests during September 1973.

The revised versions of the tests were administered to non-BTES second and fifth grade classrooms in San Jose, California at the beginning of October 1973. This administration was designed to simulate the actual testing as closely as possible so that problems of administrative procedure as well as those related to test content and directions could be corrected. The data from this testing were analyzed and final changes in the fall pupil test battery were made. Because the time required for testing was somewhat longer than desired, it was decided to administer some of the pupil aptitude and background measures in the fall and others in the spring.

The fall test battery included the following tests:

CAT Reading Comprehension, Forms 1A and 3A
CAT Mathematics Concepts, Forms 1A and 3A
CAT Mathematics Computation, Forms 1A and 3A
Attitude and Pupil Survey
Reading Application
Decoding Skills (5 forms for each grade)
Mathematics Application
Reading Achievement
Short Form Test of Academic Aptitude, Forms 1 and 3

The spring pupil test battery was quite similar to the one in the fall to permit the measurement of growth in reading achievement and attitude and mathematics achievement and attitude. One basic change was dropping the Short Form Test of Academic Aptitude (SFTAA), since this was used to get baseline information on student aptitude and did not need to be repeated. The SFTAA was replaced in the testing schedule by the Embedded Figures Test, a measure of cognitive style similar to the one taken by the BTES teachers in the spring.

One form of the Decoding Test was eliminated, leaving four forms at each grade level in the spring test battery. Items found to be inappropriate (too easy, too difficult, confusing) were dropped, cutting back one form of the Decoding Test. Two new forms were developed for the Reading Application Test and Reading Achievement Test at both grade levels. Each form contained several items from the fall form plus some additional test items.

Alternate forms of the California Achievement Tests were used in the spring testing. Form 2A was used in grade 2 and form 3B in the fifth grade. These forms were equated by the publisher to the forms used in the fall, permitting the measurement of growth in Reading Comprehension, Mathematics Concepts, and Mathematics Computation.

Another major change in the pupil test battery was the use of separate answer sheets at the fifth grade level to expedite the scoring

of pupil tests. In the fall, all responses from both grade levels were marked in the test booklets and later gridded onto answer sheets. However, in the spring, the Compuscan answer sheet, published by CTB/ McGraw-Hill, was used with the California Achievement Tests. ETS developed a special answer sheet for the remainder of the pupil battery for the multiple choice items. A machine-scorable answer sheet was not appropriate for use with some of the test items such as those in the Embedded Figures Test. The pupil responses to these items were gridded by ETS personnel onto the answer sheets later as Right-Wrong responses or with a special code that was picked up by the optical scanner at ETS in Berkeley.

Previous research has indicated that most children cannot handle a separate answer sheet until the third grade (Cashen & Ramseyer, 1969). The only machine-scorable tests used at the second grade level were the California Achievement Tests booklets developed by the publisher for pupils at that level and used extensively by second graders throughout the United States. In this case pupils mark their responses right next to the questions. All other second grade test responses were gridded later by ETS personnel onto answer sheets for scoring.

To make spring testing more efficient at the fifth grade level, pupils were permitted to read items in the Attitude and Pupil Survey and in the Mathematics Applications Tests silently to themselves. In the fall the substitute teachers read the items in these tests aloud to the pupils. This was done to minimize the influence of reading ability on test performance. However, most fifth graders could read at an adequate level and some went ahead, instead of listening to the substitute teachers. It was felt that the best approach would be to permit the pupils to work

on their own; this would also reduce the total amount of testing time required.

Scheduling and Hiring Substitute Teachers

As soon as an adequate number of teachers was obtained for the project, a professional coordinator was assigned to each district. This person contacted the superintendent or the designate in each district on November 2 to receive approval to do the pretesting in their schools before Thanksgiving and to request the needed number of preferred substitute teachers and a location for training. Whenever possible, one or two extra substitutes were hired to allow for back-ups in case of illness. The coordinator contacted each principal and then each teacher to schedule fall pupil testing. Fall testing was done between November 7 and 20, 1973.

The scheduling of the spring testing dates was done about two months in advance of the beginning of testing. At the time of the telephone contacts with BTES teachers during late February to schedule spring activities, the teachers were asked to propose a time in May when BTES pupil testing would be least likely to conflict with other school activities. ETS was able at that time to set up a tentative testing schedule covering the period of May 13 - 30, 1974 that was workable and acceptable to all concerned. On March 20, letters were sent to all primary district contacts with carbon copies to all principals and superintendents informing them of the testing dates for BTES spring pupil testing. In this letter ETS suggested that substitute teachers preferred by BTES teachers be hired for the dates indicated. The district offices were given the option of contacting ETS if they wanted the names of the substitute teachers who had been hired for the fall testing.

This letter was followed up in late April and early May by telephone calls to inquire about the status of the hiring of the substitute teachers. Most district offices had requested the names of their preferred substitute teachers from the BTES teachers and were attempting to hire these substitute teachers for two or more days of testing and for one day of training. Depending on the number of classrooms involved in each district, one or two stand-by substitute teachers were hired and trained.

A day for training the substitute teachers in the procedures of test administration was scheduled as close to the actual testing dates as possible. ETS staff members worked through and discussed the tests and manuals with all substitute teachers. During spring training special problems that had been encountered in the fall testing were pointed out and strategies to avoid these problems or ways to cope with them were suggested. A general description of BTES was given to the substitute teachers and any questions they had were answered.

Monitors

A cadre of test monitors was hired by ETS to oversee the pupil testing at each school site. The monitor was responsible for delivering the student test materials to the school site early on the first day of testing. He or she rotated from one classroom to another observing the test administration procedures, recording them, and troubleshooting as necessary. On the second day, the monitor contacted each project teacher in the school to collect materials from them. This was in addition to their first day duties. They were responsible for collecting all the student test materials at the end of the second day and returning them either to the Berkeley or Los Angeles office of Educational Testing

Service. The monitors were provided with a complete set of test materials and manuals and reviewed them with an ETS staff member prior to monitoring a classroom. In addition, the monitors were provided with a written list of instructions detailing their responsibilities and duties.

In the spring, wherever possible, monitors who had been working for ETS in this function during the fall testing were used since they were familiar with the testing procedures and the classrooms. Monitors without this previous experience were asked to attend the training session of the substitute teachers in a nearby district.

Printing and Distribution of Test Materials

The test materials were printed at the ETS office in Berkeley. Student packets were made up for each individual pupil so that test materials would only have to be passed out and collected once each day. In the fall, each pupil affixed a label to his or her own folder with an identification number on it and wrote his/her name on the folder. In the spring each pupil received his or her own personalized folder of test materials with a new set of labels with the identification number and name of that pupil in his or her folder. These labels were put on each test booklet. Since several different forms of some of the tests were being used in the spring, a distribution/categorical assignment of the different combinations of forms was made so that each of the 16 possible combinations showed up at least once in each classroom. This meant that the packing of student materials had to be done for each individual child with extreme care.

A carton of test folders was prepared for each BTES classroom and was delivered to the school the day before the pupil testing or on the morning of pupil testing by the ETS monitor. The monitors took the

completed test materials with them at the end of the second day of testing in each classroom. In no case were schools expected to receive shipments from outside carriers, store test materials for extended periods of time, or have materials shipped back to ETS.

The empty file pockets were returned to each teacher at the end of spring testing so that they could be returned to the pupils. Several pupils had elaborate drawings on their file pockets and liked keeping their papers in them.

Administration of Tests

The pupil testing required two days of test administration. The order of tests given in the fall at both grade levels is as follows:

First Day	Second Day
CAT Reading Comprehension	Decoding Skills
CAT Mathematics Concepts	Mathematics Application
CAT Mathematics Computation	Reading Achievement
Attitude and Pupil Survey	Short Form Test of
Reading Application	Academic Aptitude

During the spring testing, the order was the same for the first day. On the second day, pupils took Decoding Skills, Reading Achievement, Mathematics Application, and Embedded Figures. Some minor adjustments were made to accommodate the school schedules of recesses and lunch periods.

Schools were told in advance of the spring testing that any pupils not participating in the fall testing could be excused from the spring testing and that they should not be present in the classroom during testing if they were not taking the spring tests.

In both the fall and spring, the tests were administered by a BTES trained substitute teacher. An ETS monitor was present in each school during the two days of testing to assist wherever necessary and make

certain that all ran smoothly. A staff member was available in both the Berkeley and Los Angeles offices of ETS to take care of any situations that could occur if either a monitor or substitute teacher was ill or in case of any other problems during the testing, and to oversee the distribution and collection of test materials for each school.

During the fall testing pupils were permitted to decorate their folders if they finished a test before their classmates. However, once they started on this activity, some classmates wanted to join them. In an effort to minimize this problem in the spring testing, ETS provided each substitute teacher with several sets of activities for pupils who finished a test early. These activities were similar to the test items--word games, connecting dots, and so forth. Although pupils who had not finished their tests yet were curious to see what their classmates got from the substitute teacher, it did not cause the same level of disruption as did crayons and colored markers in the fall.

Parent Questionnaire

During the fall pupil testing, each pupil was given a Parent Questionnaire for his or her parents or guardians to complete and return to the substitute teacher on the second day of pupil testing or mail to ETS. All parents received both an English and a Spanish version. Although the overall rate of return was extraordinarily high for this kind of a survey (about two-thirds were returned), ETS wanted to try to improve the rate of return in some classrooms to the degree possible. In several classrooms where less than 50% of the Parent Questionnaires were returned to ETS in the fall, Parent Questionnaires were distributed at the time of the spring pupil testing to those individual pupils whose parents had not completed one in the fall.

Historical Data

The collection of historical data was for the Stability Substudy on Phase II. It involved the collection of achievement data in reading and mathematics on norm-referenced tests of the BTES teachers' previous students. Data were to be collected to afford a two-year historical documentation of pupil performance to be added to the documentation of pupil performance in 1973-74.

Collection Procedures. During several of the progress meetings in January and February, 1974, ETS staff members briefly described this data collection aspect of BTES to the principals. It was agreed that ETS staff could collect the data.

ETS obtained data from seven districts between April and October, 1974. No data were available from the eighth district. The procedures varied with each district. In some cases, data were available at the district office while in others ETS worked directly with the schools where the teachers taught in 1971-72 and 1972-73. The results are described in Volume V.3.

Teacher Instruments

On the first day of fall pupil testing, the teachers took a series of tests in reading, organization of information, and mathematics. An ETS staff member administered the tests.

The teachers ranked their pupils on performance in reading, mathematics, and physical education, completed a two-page demographic survey form on each pupil, filled out a 93-item questionnaire, and were interviewed by an ETS staff member. Some or all of these tasks were done on the second day of fall pupil testing.

In the spring, on one of the two days of pupil testing, BTES teachers met with an ETS staff member to take another battery of tests, to participate in a small group interview, and to complete some forms and instruments. In some instances, they also took the Diagnostic Film Test. During the second day of pupil testing the teachers were to complete the School Climate Study and Pupil Survey forms if they had not done them on the first day. Otherwise the second day of pupil testing was a free day for them to work on other educational activities.

Development of Tests

The only teacher ability specified in the RFP to be measured in this study was verbal aptitude. The verbal test used in the Coleman Report was suggested for this purpose.

After discussion, ETS project staff decided to treat aptitude more broadly. In addition to tests of vocabulary, it was decided to evaluate teachers' verbal reasoning skills of both an inductive and deductive nature since these reasoning abilities are involved in both reading comprehension and mathematics. It was hypothesized that teachers' abilities in these aptitudes might serve as moderator variables of their ability to teach reading and mathematics. It was important to measure similar aptitudes in both teachers and pupils to determine if a match or mismatch in teacher-pupil aptitude patterns affects teacher expectancies or pupil learning. There is some evidence that match or mismatch of pupil and teacher cognitive styles may have an effect on pupil achievement and teacher expectancies and performance. Also teachers' abilities in decoding, inferential reading, and mathematics are presumably related to what they teach and how they teach it. Finally, it was considered

important to determine how much the teachers knew about the teaching of reading and mathematics.

As a result of the above decisions, a teacher test battery for the fall was developed which included:

I. Teaching of Reading

A. Verbal Aptitude

1. Verbal Facility Test - from the Coleman study
2. Vocabulary Test

B. Decoding Skills

1. Letter-Sound Correspondence
2. Root Words
3. Affixes
4. Syllabification

C. Inferential Reading

D. Knowledge of Teaching Reading

1. Primary Knowledge
2. Primary Application
3. Intermediate Knowledge
4. Intermediate Application

II. Organization of Information (Aptitudes)

A. Memory
B. Figure Classification
C. Deductive Reasoning
D. Inductive Reasoning

III. Teaching of Mathematics

A. Computation
B. Mathematics Aptitude
C. Knowledge of Teaching Mathematics

These tests were tried out on a small sample of Rhode Island elementary school teachers. Minor changes were made and the tests were then submitted to the Evaluation of Teaching Committee of the Commission and a group of outside consultants for review. Before the fall test administrations, revisions were made based on the comments received from these reviews.

A teacher background questionnaire was developed including some of the items used on the Coleman study. The questionnaire also included new material soliciting teacher opinion of the effectiveness of various aspects of their training and teaching experience.

This 93-item questionnaire was pilot tested, then administered in the fall to all BTES teachers in order to obtain data in the following categories: (1) demographic information (e.g., age, race, parents' socioeconomic status, community of origin); (2) teachers' preferences for and perceived effectiveness with student groups of differing racial, ability, or socioeconomic characteristics; (3) the presence and utilization of additional instructional personnel (paraprofessional or specialist); (4) teachers' attitudes toward aspects of professional life, (e.g., teaching as a career, subject matter taught, level and type of students currently taught, and school setting). The earlier section in this volume on "Characteristics of the Teacher Sample" described some of the information obtained from these questionnaires.

The spring testing of teachers was designed to measure factors which, because of testing time limitations, had not been measured in the fall testing. Thus a totally different battery of tests and questionnaires was used. It was hypothesized that the cognitive factors to be measured in this test battery might be influential on teacher effectiveness and performance. Results are given in Volume V.1.

The spring battery included the following tests listed in the order in which they were administered.

Test	Factor Measured
Finding Useful Parts	semantic redefinition
Sentence Completion	retention
Embedded Figures	field dependency
Topics Test	ideational fluency
Story Surprises	originality in thinking
Controlled Association Test	associational fluency
Making Sentences	expressional fluency
Listing Objects	spontaneous fluency
Planning Test	sensitivity to problems
Teaching Reading and Mathematics Attitudes	attitudes

With the exception of the Embedded Figures Test, which is published by Consulting Psychologists Press, all these tests were developed by ETS.

At the end of each test in both the fall and spring, teachers were asked to record their comments, both general and specific, about that test on a Test Comment form given to them before the start of testing.

All teachers took both series of tests described above. The Diagnostic Film Test, in contrast, was administered to only a subsample of 35 teachers in the spring. This test was designed to measure teacher diagnostic skills in identifying oral reading problems in elementary school children. This test is further described in Volume V.4.

Scheduling

The teacher testing was scheduled on one of the two days of pupil testing in both the fall and the spring. Usually it was on the first day of pupil testing. A central district location was obtained for teacher testing and each teacher was notified of the time, date, and location as far in advance as possible. In the fall, because of the time available, the teachers were notified by telephone in all cases.

At the time of the scheduling of all spring activities in late February and early March, 1974 the teachers were informed of their own

BTES spring testing schedule. This initial notice was followed up by telephone calls in late April and early May, two to three weeks prior to their testing dates, to remind them of the testing and to inform them of the time and location. In a few instances, adjustments had to be made in the testing dates because of conflicts that had arisen since the initial scheduling. ETS staff was able to adjust schedules to meet these requests.

Administration of Tests

The tests were administered by an ETS staff member in a standard sequence during the morning of the testing day. In the spring, the Diagnostic Film Test was given to some. It took place after lunch with one exception when it was administered at the beginning of the testing day. At the end of the testing, there was a group interview.

The complete test battery required from two to two and one-half hours with two breaks in both the fall and spring. The Diagnostic Film Test lasted from one and one-half hours to over two hours. The teachers worked on other tasks such as those described below during the remaining time available on the testing day and finished them up on the second day. The instruments were collected by the ETS monitor in each school.

Pupil Surveys

In the fall, teachers completed a two-page Pupil Survey Instrument for each pupil in their classrooms. These forms contained information on age, ethnic group, special education programs, socioeconomic status, and other demographic information.

Teachers were asked in both the fall and spring to indicate their expectancy for pupil achievement in reading, mathematics, and physical education by ranking their pupils in these areas. Results of the

teacher rankings as related to pupil learning are given in Volume V.2. In the spring, they were also requested to identify ESL (English as a Second Language) students and rate their fluency and competency in English on a given scale and to provide information on the attendance records of all their pupils. The Survey of Pupils was developed by ETS to record all this information in the spring. In the fall, teachers were asked to bring a copy of their class rosters with them to testing. To facilitate the teachers' tasks in the spring, ETS provided each teacher with an alphabetical roster of his or her pupils who had participated in the fall testing.

Teacher Interviews

In the fall, two types of interviews with teachers were designed and carried out. The first was a debriefing interview, conducted with all teachers in the study; the second was an in-depth interview in which a selected subsample of teachers was involved in a discussion of the structured Work Diary. This in-depth interview is discussed in the chapter on "Work Diaries, Program Overviews, and Diary for Paraprofessionals".

In the spring, there was a second debriefing interview with all teachers. The debriefing interview was essentially an open ended conversation with small groups of BTES teachers participating in the study.

During the afternoon of the day of the teacher testing, one hour or more was set aside for the small group interview. Three topics were offered for discussion: (1) comments on the test battery just completed; (2) questions and comments on BTES as a whole and suggestions for improving the study; (3) comments on training and placement of prospective

teachers. In addition, at the fall interview, teachers were asked about their views on what should be observed during the spring BTES observations.

The third topic was the one of greatest concern in every group of BTES teachers. The necessity for actual classroom experience at the earliest possible time in the preparation of teachers was stressed by BTES experienced teachers in every group interview. It was suggested that teacher training institutions should include actual classroom experience in the freshman year of teacher education programs. A work-study program at the high school level was also suggested. Classroom experience, while in teacher training programs, should be at all levels (primary, elementary, secondary), in several subject areas, and should include as many pupil socioeconomic levels as possible. It was felt this would not only better equip the aspiring teacher, but would permit early decisions by the individual candidate or the training institution on the suitability of an individual for the teaching profession.

Other types of training programs and courses were mentioned by BTES teachers. In all but one district, BTES teachers placed great emphasis on the need for methods courses, including methods in the teaching of reading at all grade levels. They felt more emphasis should be placed on developing skills in diagnosing learning problems and in maintaining classroom discipline. Teachers in one district felt training programs should include more psychology courses in "how children learn" instead of methods courses.

Interestingly enough, the BTES teachers indicated the need for training in clerical skills such as filing, mimeographing, and typing. But perhaps the most innovative suggestion was the inclusion of a well defined course in management skills, time management, and public relations in a teacher training program. Prospective teachers should also have

the opportunity to be involved with administrative committees and personnel at the school and district level as part of teacher training. The BTES teachers not only regarded themselves as teachers, but also as managers of student teachers, paid aides, volunteers, resource persons, researchers, peer tutors, administrators, and parents.

Another aspect of teacher training which concerned the BTES teachers was related to the connections between the schools and the teacher training institutions. They felt that master teachers should have close associations with faculty in teacher training institutions. All teacher training faculty and college counselors involved in teacher education should be required to have recent experiences with pupils and teachers in grades K through 12. Such experience could be made available through workshops or periodic visitations to school sites.

These small group interviews helped to increase the teachers' feeling of involvement in the study and also to provide an opportunity for a discussion of the purposes and procedures of the research. Teachers' comments, suggestions, and reactions were regarded as an integral part of this hypotheses-generating and instrument-development year.

Environments of Teaching Study: Teachers

BTES teachers were asked in the spring to respond to a Teacher Questionnaire developed by the staff of the Environments for Teaching Program, Stanford Center for Research and Development in Teaching, and adapted by ETS with their permission. Teachers were also asked to complete the Profile of a School (Likert Associates). Information gathered in these instruments aided in the assessment of organizational variables as related to teacher effectiveness and performance. These

data were related during the analysis and synthesis stage to data collected in the Principal Interview, Principal Questionnaire and Principal Form of the Likert instrument.

At the time of the Principal Interview, each principal was shown a copy of the spring Teacher Questionnaire and asked to review it. The ETS interviewer then inquired if the principal would like to receive feedback based on the data provided in the Teacher Questionnaire. It was mandatory in all but one case that non-BTES teachers volunteer to complete these questionnaires, since a minimum of six teachers at a school was considered necessary to assure the anonymity of teachers. This was later reduced to five since not all principals requesting feedback could get six teachers. Most participating schools had only from one to four BTES teachers. Eleven principals opted for this opportunity to receive feedback.

Videotaping

Three methods were used to record classroom activities: videotaping, observations, and diaries completed by the teachers and aides. These are each discussed in this and the following two sections.

Sub-Sample for Analysis of Consistency of Teaching Behavior

Twelve teachers in Northern California volunteered to be videotaped three or four times to provide information on the consistency of teaching behaviors over a period of time. They included teachers from Orinda, San Jose, and Vacaville. All volunteered at the time of the teacher testing in the fall.

The reading and mathematics activities in their classrooms were videotaped during four time periods: December 4-14, January 22-February

6, February 20-March 8, and May 21-31. The scheduling was done by ETS staff members by telephone, followed by a letter of confirmation to the teachers with copies to the principals.

Remainder of the Teachers

The reading and mathematics activities of all Southern California teachers and the remainder of the Northern California teachers (those teachers who were not included within the special sub-sample) were videotaped one time. The scheduling of these was done in February and March at the time spring activities were scheduled. The Northern California videotapings were completed by March 20 and those in Southern California were done between March 27 and May 7, 1974.

Selection and Training of Videotapers

An ETS staff member experienced in videotaping trained the Northern California videotapers. When all classrooms in Northern California had been videotaped, the equipment was moved to Southern California. One of the experienced Northern California videotapers went to Southern California to train videotapers there. The ETS office in Los Angeles recruited and supervised the Southern California videotapers.

In each case, the trainees met with the trainer at the local ETS office to learn about the equipment and go over staff-developed procedures for contacting schools and teachers to finalize arrangements. The trainer accompanied each videotaper on his or her first classroom assignment.

Equipment

The following pieces of equipment plus accessories were used for videotaping:

Sony AVC-3400 Video Camera
Sony AVC-3400 Videocorder
Sony VCT-20A Elevator Tripod
Sony Cardioid F-98 Desk Microphone
Shure Mike Mixer M68FC
Edcor PM-1 Transmitter
Sony ECM-16 Electret Condenser Microphone
Edcor SR-1 Mini-Receiver

Usually only one camera was used in a classroom at a time, and it was focused primarily on the teacher rather than the pupils. In some cases in the sub-sample of twelve, ETS experimented with the simultaneous utilization of two cameras, one focused on the teacher and the other on as many pupils as possible. However, in coding the videotapes it was determined that very little additional information was being picked up when the second videotape was coded for the same time period. Only one camera was used in the classrooms videotaped after February.

Coding Procedures and Analysis of Data

The videotapes were coded using essentially the same procedures or extensions of procedures that were used for the classroom observations. The data collected from the videotapings were analyzed to determine the quality of what could be learned about the teaching process from videotapings. Results of the videotaping are given in Volume III.3.

Work Diaries and Program Overviews

The Work Diaries and Program Overviews were intended to provide detailed and comprehensive information on the approach to teaching reading and mathematics of the individual teacher. The questions were designed to reflect each teacher's total program in reading and mathematics, to identify materials and strategies used, and to determine the availability of and use of classroom aides. The weekly Work Diaries, one for reading and one for mathematics, were designed to reflect the

instructional process in detail during one school week. The Program Overviews provided a summary of each teacher's program in reading and in mathematics for the entire school year. The Diary for Paraprofessionals supplemented the Work Diaries and covered a one week time period and was concerned with the functions of the aides in the classroom.

The Work Diaries and Program Overviews, along with the classroom videotaping and the observations, provided data on the individual teacher's approach to teaching in the classroom. The Diaries, however, provided the vehicle through which each BTES teacher had the opportunity to describe and explain his or her program directly and in as much detail as desired. Volume V.5. summarizes the teacher responses in the Work Diaries and Program Overviews.

Developmental Phases

During the fall testing phase of BTES, a group of 36 teachers from selected schools in Northern and Southern California worked through and then discussed the first draft of the weekly Work Diary for reading with ETS staff interviewers. This group included 16 second grade teachers and 20 fifth grade teachers. The teachers' comments and suggestions were recorded and then reviewed and synthesized for implementation wherever possible in later versions of the instrument.

In general the 36 teachers found the system of using check marks in matrices to indicate the skills they taught during a particular week to be an efficient and quick way to provide information on their programs. They seemed, however, less interested in minimizing their task than they were in providing opportunities for giving detailed and descriptive information which would truly reflect the individual quality of their teaching. The reviewing teachers also suggested that the information

collected in the Work Diaries would be more meaningful if collected more than once during the school year.

The original form of the Work Diary was revised and expanded to allow for more descriptive and personalized teacher comments. A section on "Utilization of Human Resources in Addition to the Classroom Teacher" was added to collect information from the teachers on the role of aides in their classrooms. A weekly Work Diary for mathematics was developed, analogous to the one for reading. To provide information on long range teaching goals, the Program Overviews were designed within essentially the same basic format as the Work Diaries. A Diary for Paraprofessionals was also developed to allow for the study of the function and management of aides in each classroom. This Diary also included biographical questions for the aides.

All these instruments were submitted to a second review panel of eight BTES teachers. These teachers were first contacted by telephone in early February to inquire if they were willing to review the Diaries, Overviews and Diary for Paraprofessionals. ETS asked particularly for suggestions and criticisms in the areas where the teachers might find the instruments confusing or unclear. All teachers contacted agreed to be part of the review panel. The teachers gave ETS their comments by telephone since this posed a lesser demand on their time than providing written reviews. The review panel was composed of four second grade teachers and four fifth grade teachers.

The eight teachers all expressed satisfaction with the format and wording of the instruments. All teachers indicated that they found the Diaries thorough and comprehensive. Only one clarification and one addition were suggested. Both suggestions were incorporated in the final versions of the Diaries.

Distribution and Collection

A set of Work Diaries, Program Overviews and the Diary for Paraprofessionals was mailed to all BTES teachers on February 26, 1974. The Diaries were to reflect the teaching activities for the week of March 4-8. The teachers had been informed of their task regarding the instruments during the telephone contact when spring activities were scheduled. Three different versions of covering letters accompanied this mailing, depending on whether or not the teacher had been part of the group of 36 teachers who first reviewed the Reading Work Diary in the fall, a member of the final review panel of eight, or had not had any contact with the instruments. All received the same instructions. A self-addressed return envelope was enclosed with each set. The teachers were encouraged to call designated ETS staff members collect if they had any questions or comments regarding the instruments.

By March 25, 62 teachers had returned their sets of Diaries and Program Overviews. On March 26, ETS sent mailgrams to the 32 teachers who had not returned their Diaries by March 25, reminding them to please complete and return the instruments. The mailgram campaign was most effective. Only eight teachers did not respond. These eight teachers were personally contacted by the ETS staff member who visited the school for the Principal Interview. All but one teacher, who asked to be relieved of this task, returned the first set of Diaries and Program Overviews.

A total of 87 Diaries for Paraprofessionals were completed in March and returned. They represented 42 classrooms with from one to eight aides each. No follow-up was made on these because some of the teachers had indicated that they did not want to burden their aides, particularly the volunteers, with this task.

During the first stage of data gathering, some teachers indicated that they had found the completion of these instruments very demanding and time consuming. To preserve the good will of the volunteer participants, the decision was made to ask for only one additional completion of the weekly Diaries instead of two more collection dates as originally planned. It was felt that two collections would be sufficient to provide a substantial basis for data analysis.

The second set of weekly Diaries was mailed on April 12, 1974. The teachers were asked to complete this set of Work Diaries for the week of April 22. Three different versions of covering letters accompanied this set. One letter was directed toward those teachers who had not yet returned their first set of Diaries. Another version went to teachers who had no classroom aides. The third version was addressed to teachers with classroom aides asking them to have their aides again complete the Diary for Paraprofessionals. The returned Work Diaries for the week of April 22 totaled 93.

ETS received feedback concerning the Work Diaries and Program Overviews in the form of notes attached to the returned booklets, comments written on the booklets themselves, telephone calls, and discussions with teachers during the group interview done as part of the spring teacher testing.

Observations

A third method of gathering information on teaching behavior was through actual classroom observations. This method was also employed in all BTES classrooms.

Selection of Observation Systems

Essentially three basic types of observation systems have been used in previous research: anecdotal, category, and rating. Examples of the three types of systems were reviewed with the Committee on Evaluation of Teaching for possible use in Phase II. ETS conducted a review of research literature on the relation between teacher behavior and student achievement to help identify those categories of teacher behavior which should be covered by the observation system. In an effort to evaluate and update the literature reviewed by Rosenshine in his significant analysis of this relation, the automated information retrieval systems of both Educational Resources Information Center (ERIC) and the American Psychological Association were used to search virtually all potentially relevant sources of teacher behavior-student achievement research literature. In addition, telephone contacts were used to check on work currently in progress and on research that was completed too recently to have been published. The results and conclusions of these procedures were reported in the literature review itself (Potter et al., 1973).

After a comprehensive review of the research literature and existing instrumentation, it was decided to utilize APPLE (Anecdotal Process for Promoting the Learning Experience) and RAMOS (Reading and Mathematics Observation System). APPLE, and anecdotal system, was developed and modified slightly for BTES by Nadine Lambert of the University of California at Berkeley. RAMOS, a category system, was developed by Robert Calfee and Kathryn Hoover, both of Stanford University. Two versions of rating scales were developed for use in all classrooms, one for APPLE observers and the other for RAMOS observers. At the end of each observation day the observers debriefed the teachers and answered any questions the teachers had on the observation systems.

The debriefing allowed the teachers an opportunity to comment on and clarify some of the observations that had been made.

Training Observers

Both APPLE and RAMOS observers went through training sessions with the developers of the systems. Before observing in the BTES classrooms they did observations in schools not participating in BTES. These practice observations were carefully reviewed with the trainer before the observer went into any BTES classrooms. The trainers met with observers in both parts of the state to discuss problems and update training.

Each trained observer submitted a schedule of available days to the ETS office in Berkeley. ETS staff then began contacting teachers directly by telephone to schedule spring activities, including the observations.

Scheduling and Observing

Originally only one observation was planned for each classroom. It was felt, however, that a larger number of observations would provide a more accurate picture of a teacher's behavior in the classroom. Additional funding allowed for the extension of the number to eight observations in 25 classrooms and three in the remaining 70 classrooms. The sub-sample of 25 included both second and fifth grade teachers in Northern and Southern California and covered urban, suburban, and rural districts. The number of teachers in each district is given in Table 14.

Table 14

Number of Teachers in Observation Sub-Sample

District	Second Grade	Fifth Grade
Barstow	0	1
Elk Grove	0	0
Los Angeles	4	3
Orinda	2	2
Riverside	1	1
San Jose	1	4
San Marino	2	1
Vacaville	2	1

Four paired observations were scheduled in each of the 25 classrooms to allow for the examination of the overlap between two different observers on the same instrument. On two of the four dates, an APPLE observer and a RAMOS observer were present simultaneously. On the other two dates, there were either two APPLE observers or two RAMOS observers in the classroom. An observer was paired with a different observer each time as much as possible to provide the maximum number of combinations of observers.

In the remaining 70 classrooms, two dates were scheduled for observations. On one of the dates, both an APPLE and a RAMOS observer were present. On the other date, either one APPLE or one RAMOS observer was present. All observations were done between February 28 and May 16, 1974.

The RAMOS system required the observers to be in the classroom for two specific periods of time during the teaching of reading and mathematics. They were to observe 45 minutes of reading instruction and 45 minutes of mathematics instruction. The observers could complete the RAMOS debriefing with the teacher anytime at the teacher's convenience.

RAMOS observers could, depending on the teacher schedule, complete the classroom part of their observational task during just the morning activities.

APPLE observers, on the other hand, were required to record observations during the entire teaching day. Both systems required the observer to spend some time out of the classroom coding and completing certain details which expedited the data processing.

Results for APPLE are given in Volume III.1 while those for RAMOS are contained in Volume III.2.

Selection of Target Pupils

Eight target pupils were identified for observation in each classroom by comparing the actual fall reading performance of pupils to teacher ranking of expected performance. The target pupils included one boy and one girl from the top, from just above the middle, from just below the middle, and from the bottom of the distributions in each classroom. Minority groups were represented among the target pupils in approximately the same proportion as in the total classroom. An alternate pupil was chosen for each target pupil in case the target pupil was absent.

If teacher rankings in reading were not available or were too incomplete for use in selection of target pupils, teacher rankings in mathematics were used. In a few cases where team teaching made it difficult to use teacher rankings, CAT Reading Comprehension scores were used as the basis for selection of target pupils. In classrooms where eight or fewer male or female pupils were enrolled, all were designated as target pupils or alternates. The identification of target pupils assured a more accurate picture of what was happening in a classroom.

The observers watched how the teachers interacted with different types of pupils.

Environments of Teaching Study: Principals

The purpose of the School Climate Study, later called Environments of Teaching Study, was to assess the effects of organizational variables on student achievement and to gain more understanding of the relationship of these variables to the teachers' ability to create effective learning environments for students. Both the principals and teachers were asked to respond to questions about the school climate. The collection of data from teachers for the School Climate Study was discussed in the section of this volume on Teacher Instruments.

Development of Instruments

The Principal Interview was developed at the Stanford Center for Research and Development in Teaching (SCRDT) and modified for this study by ETS. Four other instruments were used to aid in the assessment of the role of the principal in the school: a teacher questionnaire and a principal questionnaire (also developed at SCRDT and modified by ETS), and the teacher and principal forms of the Profile of a School Questionnaire developed by R. Likert. Support for the instruments developed at the SCRDT came from NIE under the School Organizations and Institutions Programs which sponsored research conducted by the Environments for Teaching Project at SCRDT (NE-C-00-3-0062). These instruments had been previously used in 200 schools in California, and were used in BTES with the permission of the authors.

Scheduling Interviews

Appointments for the Principal Interview were made during the latter part of March and the first part of April by telephone. At this time it was indicated to the principal that the interview would take a minimum of one and one-half hours. The principal was told that prior to the interview date he or she would receive the Principal Questionnaire and the Likert instrument with a covering letter explaining that they constituted a part of the School Climate Study. Principals were asked to complete the questionnaire and Likert instrument by the time of the interview. A letter confirming the time and date of the personal interview was sent to the principal.

Collection of Data

The Principal Interviews were conducted by ETS staff members from March 26 through May 14, 1974. All but one of the 43 interviews were completed. The Principal Questionnaires and the Likert instruments were collected by the interviewer or mailed to ETS after the interview.

Communications

The initial contact with the districts and the schools was made by the Commission during the summer and fall of 1973. A Commission staff member was usually accompanied by one of the three BTES Associate Project Directors and by a representative of the California Teachers Association at meetings to recruit districts to participate. Once a district agreed to participate, the same people met with groups of teachers in the district to describe the study to them and to ask them to volunteer.

Shortly after recruiting was completed, the fall testing activities were under way. All arrangements were made by telephone. During the period from November 20, when fall testing was completed, until after Christmas communications with schools were minimal except for those teachers in the videotaping sub-sample.

ETS adopted a policy of a telephone contact followed by a confirmation in writing whenever possible. BTES teachers, principals, and district contacts were encouraged to call ETS in Berkeley collect whenever they had questions or comments, and many availed themselves of this offer. The BTES telephones at ETS were covered by a BTES Associate Project Director or a BTES Research Assistant during working hours whenever schools were in session.

BTES Newsletter

To improve and to maintain communications between the participants and ETS and the Commission, ETS compiled the first issue of the BTES Newsletter in January, 1974. It was sent by ETS to all participating teachers, principals and district staff as well as the presidents of the local education agencies in each of the participating districts. Copies were sent to the Commission for distribution to their members and staff, their Research Advisory Board, teacher training institutions in California, and members of the research community. A total of four issues were distributed between January and June, 1974.

The majority of the articles were written by ETS staff, though some were submitted by the Commission. All articles were approved by the Commission. The participants' reaction to the newsletters was favorable. Participants apparently felt better informed about the study and ongoing activities.

Personalized Binders

As a token gift to the participants in the project, ETS provided each teacher, principal and district contact with a binder with his or her name engraved on the front cover. These binders were delivered personally by ETS staff. They provided the participants with a place to keep their newsletters and correspondence concerning BTES.

Pupil File Pockets

During the fall testing, each pupil received a manila file pocket in which to keep his or her test materials for the two days of pupil testing. The same file pockets were used by these pupils in the spring. After the spring testing was completed, the file pockets were returned by ETS to the classroom teachers for distribution to the pupils before the end of the school year. Pupils had decorated their folders and kept their papers in them. ETS staff felt it would be a token gift to the pupils for participating in the pupil testing.

Reports to Teachers

As of the end of May, the only feedback on the results of BTES was in the BTES Newsletter. In October and November, 1974, videotapes were sent to BTES teachers on a loan basis. Additional data including pupil test scores, teacher rankings, and the teachers' scores on their own tests were sent in January 1976. These were accompanied by information describing the tests and how to use the results. All participants--teachers, principals, and district staff--received a summary of the final report of Phase II of BTES.

Teacher Honoraria

Following both the pre-testing and post-testing teachers were sent one-half of their honorarium ($50.00 each time) as soon as all their materials and those for their classrooms were received in the Berkeley office of ETS. The fall honoraria were sent out before the close of school. The spring honorarium checks were accompanied by a letter to each teacher expressing ETS' appreciation for their participation and cooperation. Copies of these letters were sent to their principals and district staff.

References

California State Department of Education. California state testing program, 1971-72 and 1972-73, profiles of school district performance. Sacramento: California State Department of Education, 1974.

California State Department of Education. 1974 California public school directory. Sacramento: California State Department of Education, 1974.

Cashen, V.M. and Ramseyer, C. The use of separate answer sheets by primary age children. Journal of Educational Measurement, 1969, 6, 155-158.

Coleman, J.S., Campbell, E.Q., Hobson, C.J., McPartland, J., Mood, A.M., Weinfeld, F.D. and York, R.L. Equality of educational opportunity. Washington, D.C.: U.S. Office of Education, 1966.

Potter, D. (Ed.), Ekstrom, R., Lockheed-Katz, M., Ragosta, M. A critical review of the literature: Teacher performance and pupil growth. Princeton, N.J.: Educational Testing Service, 1973. (Not available for distribution.)

Rosenshine, B., and Furst, N. Research on teacher performance criteria. In B.O. Smith (Ed.), Research in teacher education: A symposium. Englewood Cliffs, N.J.: Prentice-Hall, 1971.

Rosenshine, B, and Furst, N. The use of direct observation to study teaching. In R.M. Travers (Ed.), Second handbook of research on teaching. Chicago: Rand McNally, 1973.

Witkin, H. The role of cognitive style in academic performance and in teacher-student relations. Princeton, N.J.: Educational Testing Service (RB-73-11), 1973.